

Work Order ID 75372

75372

Page 1

Friday, October 21, 2011 8:58:54 AM

Item ID: D2333-103 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Tubing Assembly
 Start Date: 10/24/2011 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 11/4/2011 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: mf Date: 11-10-21 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2333	Rev B								

100
100 NC BRAKE
 Brake NC
 Brake NC
 Memo
 Bend per Template T2333-103 & Assemble as per Dwg D2333 Flare ends as per Dwg D2333

Purchasing: PO 15232 11-10-24
ph

110
110 QC Inspect part completeness to step on W/O
 QC
 Memo
 Quality Control
 105- dec'd + inspect for transit damage attached c/c to w/o.

11-11-28
2

120
120 Identify as per dwg & Stock Location: SPK
 Packaging
 Memo
 Packaging

SP 11-11-28

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\FORMS\Quality Assurance\approved QANCRWO RevE

75372

Friday, October 21, 2011 8:58:54 AM

N900040100

Setup Start *NS1*

Stop ***NS2***

1

* 1 *

Reference:

Run Start *NR1*

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

130

0.00

Quality Control

11/11/29 JF
mrf
11-11-28

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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H:\FORMS\Quality Assurance\approved QA\NCRWO RevE

Picklist Print

Friday, October 21, 2011 8:58:54 AM

Page 1

Work Order ID: 75372

Parent Item: D2333-103

Parent Item Name: Tubing Assembly

Start Date: 10/24/2011

Required Date: 11/4/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP C00.12.05Re-formatEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN818-16J ✓ Nut		Purchased	No			100	Each	4.0000	2	2			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST332		4							
				107715		4							
M2650-16 Firesleeve-crinkle		Purchased	No			100	f	9.5000	1	1		10/21/11	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST420A		9.5							
				106071		9.5							
M304TR1.000W.049 ✓ 304 RD Tube 1.00 x .049W		Purchased	No			100	f	13.9863	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT018		13.986315							
				111457		12.66							
				117598		1.326315							
MS20819-16J ✓ Sleeve		Purchased	No			100	Each	0.0000	2	2		11/19/11	

Dart Aerospace Ltd

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN B WILLIAMS	DRAWN BY B WILLIAMS	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED BW	APPROVED [Signature]	DRAWING NO. D2333	REV. B SHEET 1 OF 4
DATE 96:02:27		TITLE TUBING ASSEMBLIES	
B	96:02:27	ADDITIONAL DRAWINGS ADDED	

-107	-105	-103	-101	Part No.	Description
X	X	X	X	D2333	B205 HEATER TUBES
	2	2	2	AN818-16J	NUT
	2	2	2	MS20819-16J	SLEEVE
1	1	1	1	FIRESLEEVE 2650-16	INSULATION SLEEVE
2				AN818-16D	NUT
2				MS20819-16D	SLEEVE

MATERIAL: 1" OD X 0.049 WALL 304/316 STAINLESS STEEL

NOTES:

1. BEND PER TEMPLATES IDENTIFIED PER TUBE PART NUMBER WITH 'T' PREFIX
2. FLARE TO MATE MS33514 FLARED FITTINGS
3. INSTALL 2650 FIRESLEEVE (STRATOFLEX) OVER ALL TUBE ASSEMBLIES

75312

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

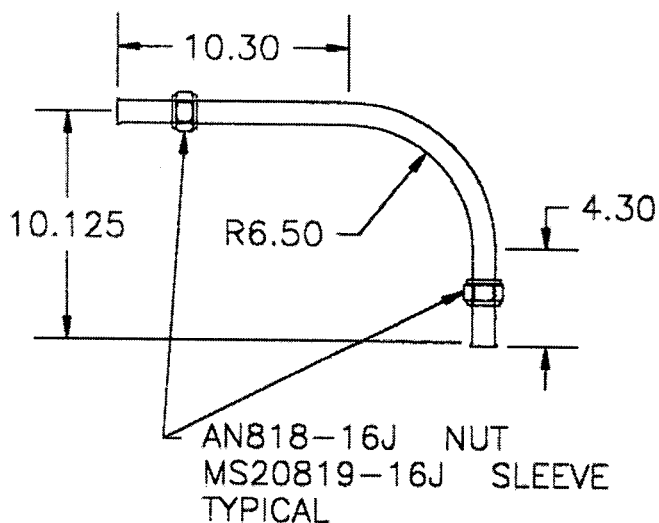
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

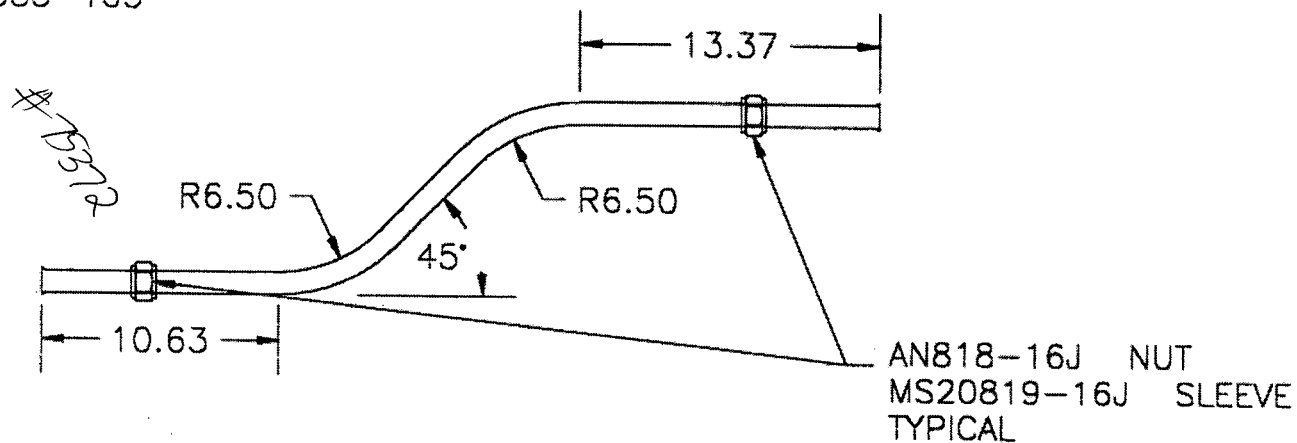


DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED Bw	APPROVED [Signature]	D2333-101	SHEET 2 OF 4
DATE	TITLE	SCALE	
96:02:26	HEATER TUBES	1:1	

D2333-101



D2333-103



INSTALL FIRESLEEVE ON ALL TUBING

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

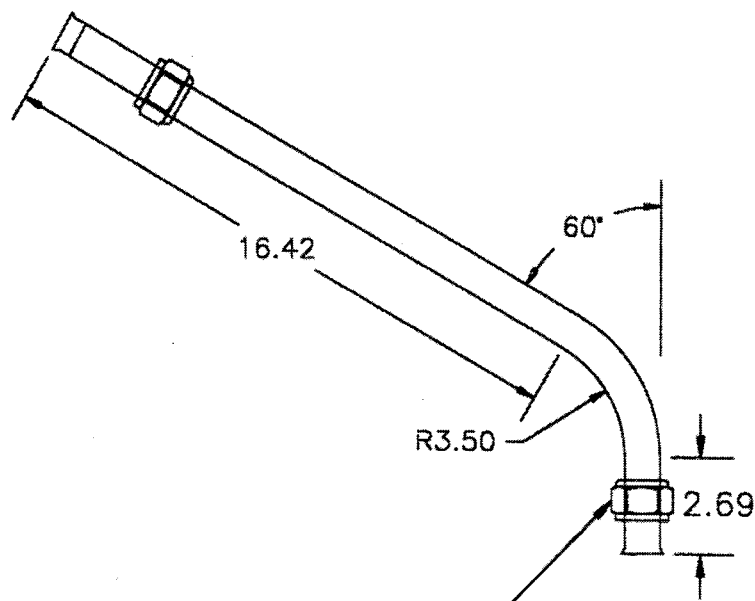
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. 8
CHECKED BW	APPROVED [Signature]	D2333-105	SHEET 3 OF 4
DATE	TITLE	SCALE	
96:02:26	HEATER TUBING	1:1	



75372

INSTALL FIRESLEEVE ON ALL TUBING

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

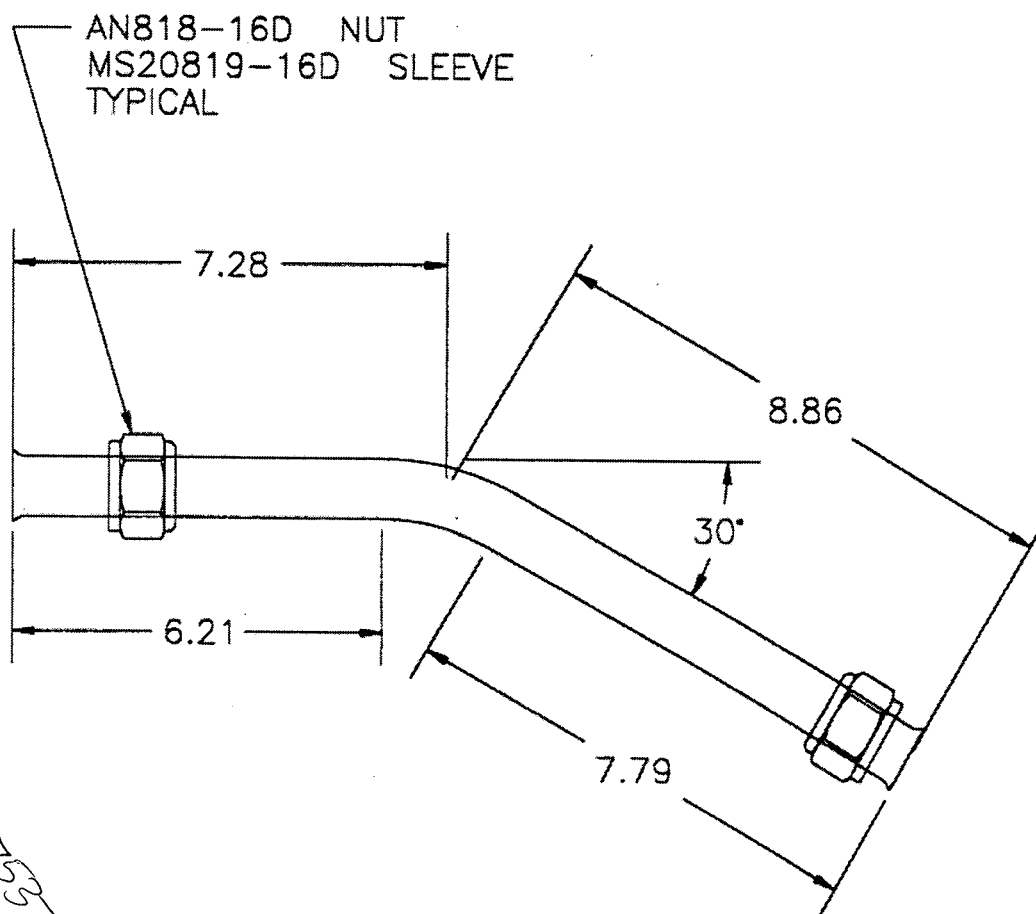
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED BJS	APPROVED [Signature]	D2333-107	SHEET 4 OF 4
DATE	TITLE		SCALE
96:02:26	HEATER TUBING		1:1



#15312

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO15232**

Purchase Order Date 10/24/2011

PO Print Date 10/27/2011

Page Number 1 of 2

Order From :

VC-CIN001

CINTUBE LTEE
333 ST-JOSEPH BLVD
LACHINE, QC H8S 2K9
CA

Contact Name		Buyer	Brigitte Golden
Vendor Phone	514 634 3592	Requisition Nbr	
Vendor Fax	514 636 3335	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	CAD
		FOB	Destination-Collect

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

CL 11/10/27

e-mail

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D2333-101P	Tubing Assembly	11/2/2011 Yes	1.00 Each	FedEx Overnig	\$320.0000	\$320.00
		Special Inst: Make per DWG: D2333 Rev: B C of C required All parts supplied by Dart 2 X AN818-16J Nuts B107715 1.2' X M304TR1.000W.049 B111457 2 X MS20819-16J B119356					
2	D2333-103P	Tubing Assembly	11/2/2011 Yes	1.00 Each	FedEx Overnig	\$320.0000	\$320.00
		Special Inst: Make per DWG: D2333 Rev: B C of C required All Parts supplied by Dart 2 X AN818-16J Nut B107715 1.2' X M304TR1.000W.49 Tube B111457 2 X MS20819-16J Sleeve B119356					

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 4

Change Date: 10/27/2011

CINTRAGE DE PRECISION, DE TUBES, TUYAUX, CORNIÈRES, POUTRES,
PROFILÉS EN "U", ET SERPENTINS.

MANUFACTURIER DE GÉNÉRATRICE À VAPEUR, ÉLÉMENT CHAUFFANT,
RÉCUPÉRATEUR DE CHALEUR, ÉCONOMISEUR ETC.

PRECISION BENDING OF TUBES, PIPES, ANGLES, BEAMS, CHANNELS, COILS.
MANUFACTURERS OF STEAM GENERATORS, THERMAL FLUID HEATERS,
WASTE HEAT RECOVERY UNITS, ECONOMIZERS

333 BOUL. ST-JOSEPH, LACHINE, QUÉBEC H8S 2K9
TÉLÉPHONE: (514) 364-6426 FAX NO: (514) 636-3336

LETTRE DE CONFORMITÉ - LETTER OF COMPLIANCE

Client/Customer DART AEROSPACE LTD Date: NOV. 24/2011
N° de commande du client/Customer order No: PO 15232
Notre n° de feuille de route/Our order No: 116710
Notre n° de dessin/Our drawing No: —
Description/Customer drawing No: D2333-103, D2333-105, D2333-107
Nom de la piece/Part Name: HEATER TUBING
ONE PIECE OF EACH

La présente est pour certifier que le matériel ci-haut mentionné se conforme aux exigences contractuelles de qualité et/ou de la confirmation de la commande, qu'il a été produit, inspecté et testé selon les spécifications standards applicables de notre programme de contrôle de la qualité, du contrat et du(des) dessin(s).

This is to certify that the material covered by this document conforms to the quality requirements of the purchase order or contract, that the material has been produced, verified and tested according to applicable standard specifications listed in our quality control procedures, contract specifications and/or drawing(s).

Signé par/Signed by: G. Houle

G. HOULE POUR B. OVERBURY

Directeur des services techniques/Technical Services Director

Pour la Compagnie Cintube Ltee/On behalf of Cintube Ltd.

F 10.4,5

MILL TEST CERTIFICATE

SHANGHAI PUFA STAINLESS STEEL PIPE FACTORY

7 Hongye Road, Tang Town, Pudong New District, Shanghai, China

ISO 9001:2008 MOODY

REGISTRATION No. 110703068

116710
 DART AEROSPACE
 PO15232
 NOV. 23/2011

CERTIFICATE NO. 10-5-6						PURCHASER SC MFG Group					
COMMODITY Seamless Stainless Steel Tube OD Polished to 240Grit						CONTRACT NO.: SC-15201 // PINACLE ORDER # 53263					
SPECIFICATION ASTM A213-08/ASME SA213-08/ASTM A269-08 EAW						DATE OF REPORT 2010.5.9					

Steel Grade	Heat No.	Lot No.	Dimensions					Process	Delivery Condition	Macroscopic Inspection	
			O.D. (in)	W.T. (in)	Length (ft)	Pieces	Feet			End Cut	Appearance
TP304/ TP304L	TG090962		1	0.049	20	100	2,000	Cold-Drawn	Solution -Annealed	Passed	Passed

Chemical Composition (W.T. %)

Element	C	Mn	P	S	Si	Cr	Ni	Mo	Ti			
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.0~20.0	8.0~11.0		/			
Ladle Analysis	0.023	0.82	0.038	0.001	0.34	18.16	8.09		/			
Product Analysis	0.018	0.87	0.041	0.001	0.31	18.33	8.29		/			

Mechanical Properties

Test Item	Y.S. (MPa) Rp0.2	T.S. (MPa) Rm	EL. (%) In 2 in	Reduction of Area Z. (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test
Requirements	≥205	≥515	≥35	/	HRB≤80	/	21%	e=0.09	
Test Results	280/290	640/650	65/66	/	78/80	/	Passed	Passed	Passed

Non Destructive Tests

Test Item	Eddy Current Test	Ultrasonic Test	Hydrostatic Test	Inter-granular Corrosion Test	Remarks
Requirements	ASTM E 426	/	/	/	Materials is NACE MR0103 2007 compliant Tubes tested per ASTM A1016-04a All tubes annealed to above 900 Deg F and water quenched below 800 Deg F in 3 minutes- No weld repair performed In compliance with Mil-P-24691 / 3 In compliance with RoHS Directive 2008/35/EC Tubes Made in CHINA -Material compliance to ASTM A262 Practice E
Test Results	Passed	/	/	/	

We hereby certify that the material described herein has been made and tested completely in accordance with the above specification and with the requirements of the purchase order or contract.

Prepared by

QC Manager

Approved by



General Manager